

A NEW SPECIES OF IXODES FROM MALAYA

(ACARINA: IXODIDAE)

GLEN M. KOHLS, *Rocky Mountain Laboratory, P.H.S., Hamilton, Mont.**Ixodes malayensis*, new species

(Figs. A-F)

Type Data.—Holotype (only specimen known), a slightly engorged female from a tree shrew, *Tupaia glis*, Mt. Brinchang, 5200' elevation, Cameron Highlands, Pahang, Malaya, February 13, 1958. Collected by Lt. Colonel R. Traub, then Commanding Officer, U. S. Army Medical Research Unit, based at Kuala Lumpur. Deposited in the Rocky Mountain Laboratory collection; RML No. 35721.

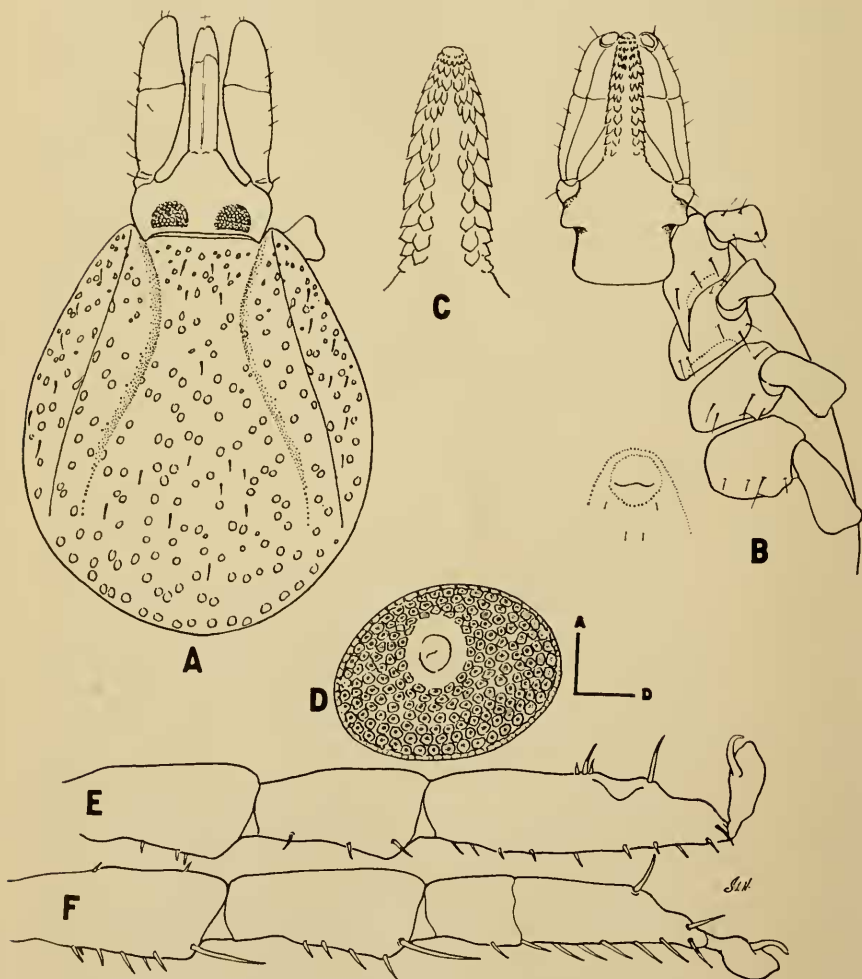
DESCRIPTION.—*Body*, length excluding capitulum, 2.5;¹ width, 1.7. *Capitulum*, length, tips of palpi to tips of cornua, 0.81; width of basis, 0.48. Lateral margins of basis slightly convex, posterior margin between the moderate blunt cornua, straight. Porose areas large, subcircular, somewhat depressed, and separated by about three-fourths the diameter of one. Palpi moderate in length, lateral margins nearly straight, median margins curved; widest near apex of segment 2; combined length of segments 2 and 3, 0.56. Ventrally, basis constricted behind the blunt, flattened auriculae; transverse sutural line only faintly suggested; posterior margin broadly rounded. Palpal segment 1 with a small ventral plate. Hypostome long, length of toothed portion about 0.47; sides mildly convex, apex rounded; dentition apically 4/4 in 2 transverse rows, then 3/3 to about mid-length, then 2/2 to base, lateral denticles largest, medians very small. *Scutum*, shape as figured. Length, 1.26; width, 1.19. Color darker anteriorly and laterad of cervical grooves. Lateral carinae mild, nearly straight, extending from scapulae to near posterolateral margins; area laterad of carinae depressed; cervical grooves distinct, extending from emargination to near ends of lateral carinae, convergent anteriorly, divergent posteriorly; punctations deep, uniformly distributed, large over most of the scutum but somewhat smaller laterad of lateral carinae. A few fine yellowish hairs present. *Legs* long, reddish-brown. Coxa I with a very long, sharp internal spur reaching about halfway across coxa II, no external spur; coxa II with no spurs; coxae III and IV each with a short blunt external spur, but no internal spurs; posterior borders of all coxae salient. Trochanters unarmed. Tarsi tapered step-wise. Length of tarsus I, 0.65; metatarsus 0.37. Length of tarsus IV, 0.60; metatarsus, 0.43. Pulvilli of all tarsi nearly as long as claws. *Spiracular plate* suboval; greatest dimension about 0.37. Goblets numerous. *Genital aperture* situated between coxae IV. *Anal groove* in form of an inverted U; anus situated far posteriorly.

I. malayensis superficially resembles *I. spinicoxalis* Neumann, 1899, of Sumatra and Java but is readily distinguished by the uniform rather than peripheral distribution of the scutal punctations and by the absence of external spurs on coxae I and II.

Excluding the very small, aberrant, bat-infesting species *Ixodes* (*Lepidixodes*) *paradoxus* Kohls and Clifford, 1961, in which porose

¹Measurements are in millimeters.

areas are not discernible, only 2 other species of the genus, *I. granulatus* Supino, 1897, and *I. wernerii* Kohls, 1950 (Kohls, 1957), are known to occur in Malaya. *I. granulatus* has 2 short spurs on coxa I, the auriculae are much reduced, and cornua are absent or only faintly suggested. *I. wernerii* also has 2 spurs on coxa I but the internal is about twice as long as the external and the auriculae are in the form of prominent, posteriorly directed horns.



Ixodes malayensis, new species, female. A, capitulum and scutum, dorsal; B, capitulum, coxae and genital area, ventral; C, hypostome; D, spiracular plate (A = anterior, D = dorsal); E, tarsus and metatarsus, leg I; F, tarsus and metatarsus, leg IV.

REFERENCES

- Kohls, Glen M., 1957. Malaysian Parasites, XVIII. Ticks (Ixodoidea) of Borneo and Malaya. Stud. Inst. Med. Res. Malaya, 28, 65-94.
- Kohls, Glen M. and Carleton M. Clifford, 1961. A new species of *Ixodes* (*Lepidixodes*) from bats in Malaya, North Borneo, and the Congo (Acarina-Ixodidae). *Acarologia* 3(3): 285-290.

THE OCCURRENCE OF *IXODES AFFINIS* NEUMANN ON BLACKBEARD ISLAND, GEORGIA

(ACARINA: IXODIDAE)

On September 29, 1960, an investigation was undertaken to determine if an unusually heavy infestation of ticks possibly could be causing mortality of white-tailed deer on Blackbeard Island, Georgia, a 6,000 acre coastal island and National Wildlife Refuge which contains about 3,000 acres of deer habitat. Mr. Lawrence Wineland, Wildlife Technician, stated that the deer herd consisted of approximately 300 animals averaging about 60 pounds each and that ticks (species unknown) appeared to be much more abundant on all animals than they had been at any previous time during the past few years. This was indicated by the fact that Mr. Wineland's pack of beagles had been plagued with ticks all summer.

An effort was made to capture several deer and inspect them for ticks, especially the cattle-fever tick, *Boophilus annulatus*. An 8 point buck was captured and close inspection (by Marshall) revealed an estimated 100 mature ticks. Sixteen of these were preserved and an attempt was made to identify them at the Southeastern Cooperative Wildlife Disease Study Laboratory. Since no positive identification could be made, specimens were sent to Dr. Glen M. Kohls, Sanitarian Director, U.S.P.H.S. Rocky Mountain Laboratory, Hamilton, Montana. Dr. Kohls identified all these tick specimens as *Ixodes affinis* Neumann. This is a new record for Georgia and only the second report of the occurrence of this South and Central American tick in the United States. Kohls and Rogers (1953, Jour. Parasit. 39(6): 669) reported the collection of one specimen of the species on a lynx, *Lynx rufus floridanus*, in North Florida in 1948 and two additional specimens in the same area, one on a dog and the other on a lynx, in 1951. Cooley and Kohls (1945, NIH Bull. 184:34) recorded *Ixodes affinis* from deer in Brazil, Guatemala and Panama and Kohls and Rogers (1953) from deer in southern Mexico.

Ticks were collected by Mr. Wineland from his beagles all during the following summer (1961) in an effort to see whether more *I. affinis* could be found, but not a single specimen was taken. The 1018 specimens taken from the dogs were identified by the senior author as *Amblyomma americanum* (Linn.) (494 specimens); *Dermacentor variabilis* (Say) (426 specimens); *Ixodes scapularis* Say (96 specimens) and *Rhipicephalus sanguineus* (Latreille) (two specimens).

Nine white-tailed deer were examined for ectoparasites during an archery hunt January 1-5, 1962. Of the 33 ticks removed from these animals, 24 were identified as *Ixodes scapularis* Say and nine as *Amblyomma americanum* (Linn.)